

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1-18 and ADD new claims 20-26 in accordance with the following:

1. (Currently Amended) ~~A~~Pattern forming materials comprising:
a thermal sensitive material layer formed on a target substrate;
a first light-to-heat converting layer formed between the thermal sensitive material layer and the target substrate; and
a second light-to-heat converting layer formed on a surface of the thermal sensitive material layer opposite to the first light-to-heat converting layer,
wherein the thermal sensitive material layer is interposed between the first and second light-to-heat converting layers.
2. (Currently Amended) The pattern forming materials of claim 1, wherein the first and second light-to-heat converting layers absorb activation light radiated thereon and convert the absorbed activation light into heat.
3. (Currently Amended) The pattern forming materials of claim 2, wherein the first and second light-to-heat converting layers comprise a Ge-Sb-Te alloys; Sb; Ag-In-Sb-Te alloys; Ag-In-Sb-Te-V alloys; lithium niobate and methylnitro aniline.
4. (Currently Amended) The pattern forming materials of ~~any one of claims 1 through 32~~, wherein the thermal sensitive material layer is rendered soluble or insoluble in a developing solution when further irradiated further by another activation light.
5. (Currently Amended) The pattern forming materials of claim 4, wherein the thermal sensitive material layer, after heat is generated in the first and second light-to-heat converting layers by activation light irradiation, is no longer rendered soluble in the developing solution when further irradiated further by the another activation light.
6. (Currently Amended) The pattern forming materials of claim 4, wherein the thermal sensitive material layer is rendered insoluble in the developing solution by the heat

generated in the first and second light-to-heat converting layers by the other activation light irradiation.

7. (Currently Amended) The pattern forming materials of claim 5, wherein the thermal sensitive material layer is made of a positive type photoresist.

8. (Currently Amended) The pattern forming materials of claim 6, wherein the thermal sensitive material layer is made of a negative type photoresist.

9. (Currently Amended) The pattern forming materials of ~~any one of~~ claim 1 through 8, further comprising at least one thermal protective layer between the second light-to-heat converting layer and the target substrate.

10. (Currently Amended) The pattern forming materials of claim 9, wherein the thermal protective layer is a substrate protective layer formed between the first light-to-heat converting layer and the target substrate.

11. (Currently Amended) The pattern forming materials of claim 9 or 10, wherein the thermal protective layer is a thermal buffer layer formed between the thermal sensitive material layer and the first light-to-heat converting layer.

12. (Currently Amended) The pattern forming materials of ~~any one of~~ claims 9 through 11, wherein the thermal protective layer is a thermal buffer layer formed between the second light-to-heat converting layer and the thermal sensitive material layer.

13. (Currently Amended) The pattern forming materials of ~~any one of~~ claim 1 through 12, further comprising a cap layer on the second light-to-heat converting layer.

14. (Currently Amended) A method of forming a pattern using the pattern forming materials of ~~any one of~~ claims 1 through 13.

15. (Currently Amended) A method of forming a pattern using a pattern forming materials including a thermal sensitive material layer formed on a target substrate, a first light-to-heat converting layer formed between the thermal sensitive material layer and the target substrate, and a second light-to-heat converting layer formed on a surface of the thermal sensitive material layer opposite to the first light-to-heat converting layer, the thermal sensitive

material layer being interposed between the first and second light-to-heat converting layers, the method comprising:

(a) radiating a first activation light onto the first and second light-to-heat converting layers to generate heat therein and change a pattern portion of the thermal sensitive material layer ~~by the heat~~; and

(b) removing a non-pattern portion of the thermal sensitive material layer.

16. (Currently Amended) The method of claim 15, further comprising radiating ~~another~~ a second activation light onto the thermal sensitive material layer after the pattern portion has been changed.

17. (Currently Amended) The method of claim 15, further comprising radiating ~~another~~ a third activation light onto the thermal sensitive material layer before step ~~(a)~~radiating the first activation light.

18. (Currently Amended) The method of ~~any one of~~ claims 15 through 17, wherein the thermal sensitive material layer is made of a positive type photoresist.

19. (Original) The method of claim 15, wherein the thermal sensitive material layer is made of a negative type photoresist.

20. (New) The pattern forming material of claim 1, wherein the target substrate is thermally resistant.

21. (New) The pattern forming material of claim 10, wherein the substrate protective layer is formed on the substrate.

22. (New) The pattern forming material of claim 1, wherein the thermal sensitive material layer changes properties due to heating or activation light irradiation, allowing a pattern to appear through a development process.

23. (New) The pattern forming material of claim 1, wherein at least two surfaces of the thermal sensitive material layer are heated, enabling a high aspect ratio pattern to be formed.

24. (New) The method of claim 15, wherein the first activation light is blue light.

25. (New) The method of claim 16, wherein the non-pattern portion of the thermal sensitive material layer is removed by a developing solution.

26. (New) A pattern forming material comprising:
a photo and thermal sensitive material layer formed on a target substrate;
a first light-to-heat converting layer formed between the photo and thermal sensitive material layer and the target substrate; and
a second light-to-heat converting layer formed on a surface of the photo and thermal sensitive material layer opposite to the first light-to-heat converting layer,
wherein the photo and thermal sensitive material layer is subject to activation light irradiation, forming a fine pattern on the photo and thermal sensitive layer by heat generated by the activation light irradiation, without evaporation or deformation of the photo and thermal sensitive material layer.